Air pollution from planes impacts wide area

By Joe Balintfy

NIEHS-funded scientists at the Keck School of Medicine of the University of Southern California (USC) have shown that plane activity at Los Angeles International Airport (LAX) worsens air quality as far as 10 miles away.

Fruin and his team measured air quality for more than five hours, under consistent wind conditions, to fully capture the extent of impact boundaries. (Photo courtesy of USC)

The study,
(http://www.ncbi.nlm.nih.gov/pubmed/24871496)
conducted with University of Washington researchers and published in the journal Environmental Science and Technology, found that particle number concentrations increased twofold over a 23 square mile area downwind from the airport.

"Our research shows that airport impacts extend more than 5 times further than previously assumed," said Scott Fruin, D.Env., lead researcher and assistant professor of preventive medicine at USC. "Effects from planes that are landing appear to play a major role in this large area of impact."

Far reaching impacts from landings

Previous research mainly focused on measuring air pollution levels in close proximity to airport runways. Scientists in those studies found that pollution concentrations decreased dramatically downwind, fueling the assumption that total airport impacts also rapidly declined with distance. The new research, however, refutes this assumption.

"LAX may be as important to LA's air quality as the freeway system," said Fruin.
(http://mph.usc.edu/faculty.php?selected_faculty=91&v=95682B)
"The impact area is large, and the airport is busy most hours of the day. That makes it uniquely hard for people to avoid the effects of air pollution in affected areas."

The study found that particle number concentrations were at least doubled 10 miles downwind, compared to baseline concentrations outside the LAX impact area. Also, concentrations were four to five times higher as far as six miles downwind.

Citation: Hudda N, Gould T, Hartin K, Larson TV, Fruin SA.
(http://www.ncbi.nlm.nih.gov/pubmed/24871496)
2014. Emissions from an international airport increase particle number concentrations 4-fold at 10 km downwind. Environ Sci Technol 48(12):6628-6635.

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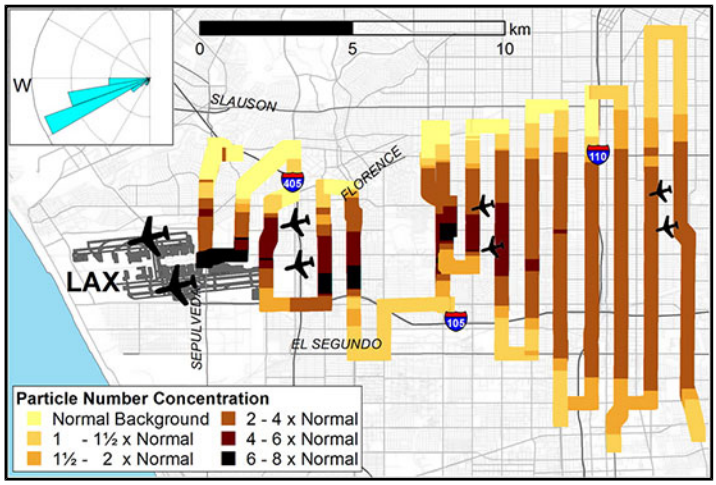

Researchers measured particle number concentrations downwind from LAX over a 29-day period. (Photo courtesy of USC)

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